



THE ARCHITECTURAL HERITAGE OF VASPURAKAN AND THE PRESERVATION OF MEMORY LAYERS

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Geographical and Geological Features of Vaspurakan

Lake Van, the heart of the region of Vaspurakan, is dominated by mountains on all sides. Enveloped from the north by the slopes of Mount Sipan, from the west by Nemrud Dag, with its gigantic volcanic crater, and from the east by the limestone ridges of Mount Varag, Vaspurakan is a naturally fortified area. For this reason, it was chosen by the kings of Urartu as their central locus in the ninth century B.C. Since then the area has been actively inhabited. As the heartland of Urartu, an integral territory of the Ervanduni, Artashesian, Arshakuni, and Artsruni Armenian kingdoms, and the battlefield for Urartian, Assyrian, Armenian, Roman, Sasanid, Arab, Byzantine, Seljuk, Mongol, Turkmen, Persian, and Ottoman armies, among others, the Vaspurakan region bears layers of memory, just as it bears geological layers of relief, a result of the ever struggling tectonic plates, always moving, to rearrange the shape of this part of the earth.¹

Ironically, the mountainous nature around the lake has been a reason for both attraction and destruction for the population living there. These beautiful mountains have always been moving in rage, causing devastating earthquakes. According to an old Armenian legend, a terrible dragon was dwelling inside Lake Van. When the dragon turned a thousand years old, the angels dragged the dragon out of the lake, up to the open sky toward the sun. The dragon was so old that it could not

¹ For further information about the Vaspurakan region, see Jean-Michel Thierry, "Notes de géographie historique sur le Vaspurakan," *Revue des études byzantines* 34 (1976): 159-73.

resist and was burned to ashes. What is more interesting than the legend itself is the description of the situation afterwards. "During the following days the vicinity of the lake was covered with such a dense fog that people within steps of each other were unable to see one another in daytime. The sky was roaring. The earth was shaking and ashes poured down from the sky."² It is quite clear how the effect of the repeated natural disasters has found its way into this traditional legend, where the dragon can be interpreted as the personification of the earthquakes and volcanic eruptions.

Nevertheless, the geographical position of the region, as a crossroad between the Mediterranean, Black, and Caspian seas in ancient times and between the Middle East, Asia, and Europe in modern times, has played a major positive role in the flourishing of the economic and political life of the region. On the other hand, its centrality has frequently made it an area of massive migrations and invasions since antiquity. As a result Vaspurakan witnesses an architectural heritage reflecting the diversity of the different cultural groups that have traversed this soil.

*Built Environment of Vaspurakan:
Between "Regional Memory" and "Cultural Memories"*

In view of the geological and geographical features of the region, the inhabitants had to develop a particular built environment, suitable to persist against three main dangers: the rocky nature of the terrain, the uncontrollable movements of the earth, and the ferocity of the invasions. Provocations posed by these natural and non-natural threats have limited the range of characteristics of the built environment and, within this limitation, certain methods were developed which by accumulative experimentation achieved great perfection.³ Vaspurakan has forced its dwellers, in spite of the cultural differences among them, to develop a "regional memory." All that is man-made here shares the prime burden of "disciplining the environment." Automatically, the various

² Aram Ghanalanyan, *Avandapatum* [History of Traditions] (Erevan: Armenian Academy of Sciences, 1969), p. 82.

³ Garbis Armen, *An Architecture of Survival* (Ottawa: Hairenik Association, 1992). In the articles consecrated to the typology, the author establishes a new way of categorizing Armenian church architecture, one where the structure is the primary criterion in the classification. With some reservations, I believe this is an approach worthy of further development.

architectural expressions of the region have adopted the proven principles of the previous group and added to these their own cultural requirements, thus creating specific "cultural memories" within an overarching "regional memory."

Facing the historical and geographical vicissitudes of Vaspurakan, I will concentrate on the selective topic of Armenian church architecture as an imposing cultural memory. Cultural memory refers to a group-specific variant in building practices within the broader regional memory. By selecting the church on Aghtamar island as an example, I wish to demonstrate the characteristics of the cultural memory of Armenian church architecture and then follow with a brief survey of Armenian churches in Vaspurakan in order to point out similarities and the variations within this memory. Finally, to show the aspect of continuity of the architectural tradition, the *gumbad* type of Seljuk constructions as another cultural variant will be considered.

The Church of Surb Khach on the Island of Aghtamar

Many different constructions commissioned by King Gagik Artsruni (908-43) once pervaded the entire island of Aghtamar. All that remains today is the tenth-century Surb Khach (Holy Cross) Church, a fourteenth-century chapel with what is called a portico, a *gavit* (a hall preceding the churches used for both civil and religious purposes) built in 1763, and the nineteenth-century bell tower.⁴ This discussion will concentrate on the main church (Figs. 1-3, Ill. 1).

According to a tenth-century historian, when King Gagik Artsruni decided to build this church, "he gathered at the palace gate a number of artisans, nobles of all nationalities, and whoever was able to realize the king's wishes. The king ordered one of them to become the architect—the wise and genius—and to start building." This man, who was then only a sculptor, later became the architect Manvel, one of

⁴ For more information about Surb Khach, see Sirarpie Der Nersessian, *Armenian Art* (London: Thames and Hudson, 1978), pp. 81-122; Stepan Mnatsakanyan, *Aghtamar* (Erevan: Armenian Academy of Sciences, 1983); Hrayr Isabekyan, *Haykakan renosansi chartarapetutyune* [The Architecture of the Armenian Renaissance] (Erevan: Hayastan, 1990), pp. 77-91; Friedrich Karl Dörner, "Vom Bosphorus zum Ararat," *Kulturgeschichte der Antiken Welt*, vol. 7 (Mainz: Verlag Philipp von Zabern, 1981), pp. 301-04; Sirarpie Der Nersessian and Herman Vahramian, *Aght'amar*, in the series *Documents of Armenian Architecture*, no. 8 (Milan: Editzione Ares, 1974).

the most famous medieval Armenian architects. He planned and oversaw the building of the Church of Surb Khach on Aghtamar between 915 and 921.⁵

The plan of Surb Khach comprises four semi-circular niches placed along the cardinal axes to create the cruciform effect both externally and internally. The western niche, which serves as the entrance, and the eastern one, which serves as the main apse, are both preceded by rectangular barrel vaulted spaces, creating an elongated effect to the main east-west axis. All this can be apprehended within the internal space. The central prayer area is separated from the niches by four framing arches. The four niches are joined in the four corners by smaller, nearly circular niches. These run upwards to the level of the springing of the arches framing the central area and are covered with small half domes. The main apse is flanked by two rectangular side sanctuaries that are accessed by the smaller corresponding niches. The hemispherical *gmbet* (dome) rises above a cylindrical drum which is supported by the pendentives rising above the small corner niches.

On the exterior, the four niches as well as the smaller corner niches are covered with tiled pitched roofs. The hemispherical internal *gmbet* is topped by a second one, in the form of a pointed cone, covered again with tiles. The circular drum is sixteen-sided externally. This massive stone construction is internally decorated by mural paintings, while the exterior is decorated with high reliefs on three registers, grouped according to the themes used from the Old Testament and the New Testament (Figs. 4-6). These paintings and reliefs have been analyzed thoroughly by scholars and will not be discussed here.

The "Cultural Memory" of Armenian Church Architecture in Surb Khach

Having seen this one church, those familiar with Armenian church architecture might observe that it could have been built anywhere in the Armenian realm. This is true, as the common constituent elements of the cultural memory of the art of building Armenian churches, once created, has never failed to be regenerated. Armenian master builders have flavored their creations, giving them what in art history is termed

⁵ Tovma Artsruni ev Ananun, *Patmutyun Artsrunyats tan* [History of the Artsruni House], ed. and trans. Vrezh M. Vardanyan (Erevan: Erevan State University, 1985), pp. 451-64.

as a "style." This style makes of all the churches a recognizable group, with substantial structural properties in common, and differs from types of structures that function similarly in other cultural groups. Yet, though sharing common structural characteristics, each Armenian church is also distinct. The tenth-century historian Tovma Artsruni, while stating that 100 Armenian churches existed in the vicinity of Vaspurakan, notes that "all differed in their details."

An examination of Surb Khach of Aghtamar will show the common characteristics of the cultural memory of Armenian church-building tradition that make them different compared with those of other cultural groups. The differences of each individual building, within the same cultural group, will be clarified by a quick survey of several Armenian churches in Vaspurakan.

Similarity of Armenian Churches

Taking Surb Khach as an example, there exist two key characteristics of Armenian churches: the similarity of the ground plan, and the pointed conical shape of the dome. Surb Khach belongs to the large family of central-plan buildings, which for centuries was a privileged form in the East, especially in Armenia. Charts depicting the typology of Armenian churches illustrate how ground plans sometimes can be identical.⁶ For example, the seventh-century Church of Surb Echmiadzin near the village of Soradir or Zoradir in the region of Vaspurakan is considered the model for Surb Khach on Aghtamar island (Ills. 1-2). This repetition itself speaks of a "cultural memory." Studying similarities in the ground plans of Armenian churches in the early twentieth century, Toros Toramanian, the father of Armenian architectural history, has created a typology that has since been adopted, with slight variations, by a number of scholars. Without going into details, I would like only to mention that in one way or another all Armenian churches fit within these types, regardless of chronology. In other words, these types were used simultaneously from the fifth century onward. The compelling question is why is a ground plan repeated?

⁶ Toros Toramanian, *Niuter haykakan chartarapetutyun patmutyan* [Materials from the History of Armenian Architecture], 2 vols. (Erevan: Armenian Academy of Sciences, 1942-48); Paolo Cuneo, *Architettura Armena* (Rome: De Luca Editore, 1988), vols. 1-2; Patrick Donabedian and Jean-Michel Thierry, *Les Arts Arméniens* (Paris: Mazenod, 1987), also published as *Armenian Art* (New York: H.N. Abrams, 1989).

The answer, I would argue, relates directly to the rocky terrain and uncontrollable movement of the earth. Using stone, an abundant material in the region, Armenian master builders have adopted ground plan forms that resist the restrictions imposed by the region. Here I will only present three main points.

1. The smooth passage of the loads from the dome to the drum, to the pendentives, to the side niches, and finally to the eight pillars of the central prayer hall, is well satisfied by the constituents of the ground plan. Hence, the four-sided semi-circular niches serve as buttresses for a better distribution of the weight coming from above. If these were to be eliminated, the loads would have been distributed on only four pillars, instead of the eight created by the small corner niches.

2. The internal lateral continuous depression separating the entrance niche from the central hall is a spatial solution that serves both to illuminate the interior and to break down the concentrated loads at that junction, making it more stable.

3. The vertical external niches on the eastern façade, while creating an interesting light and shade effect on the façade, function to decrease the width of the masonry at the points where the wall bends internally to create the niche of the main apse. Extra masonry at this point would have simply overburdened the wall, making it more susceptible to earthquake damage, whereas the niche solution created on the exterior helps to distribute the load of the internal semi-spherical weight of the apse. In many late Armenian churches, these niches lost their construction function and were placed anywhere on the façade as a mere decorative device.

Considering these structural features of the ground plan, which I assume were arrived at through a series of repeated experimentations, one may surmise the reasons that Armenian master builders chose similar, tested plans. Their main enemy, the earthquake, forced them to adopt over and over again ground plans that gave constructionally-proven safe spatial solutions. As far as earthquakes are concerned, the precautions taken against them went much beyond the ground plan characteristics. With the local stone, the walls were built in a three-fold manner, with a strong mortared middle core and facing stones on the two sides of this core. To exemplify this point, I have chosen the church of Surb Astvatsatsin of Arkelan, as its ruinous state allows us to examine the internal core of its stone walls. This method of build-

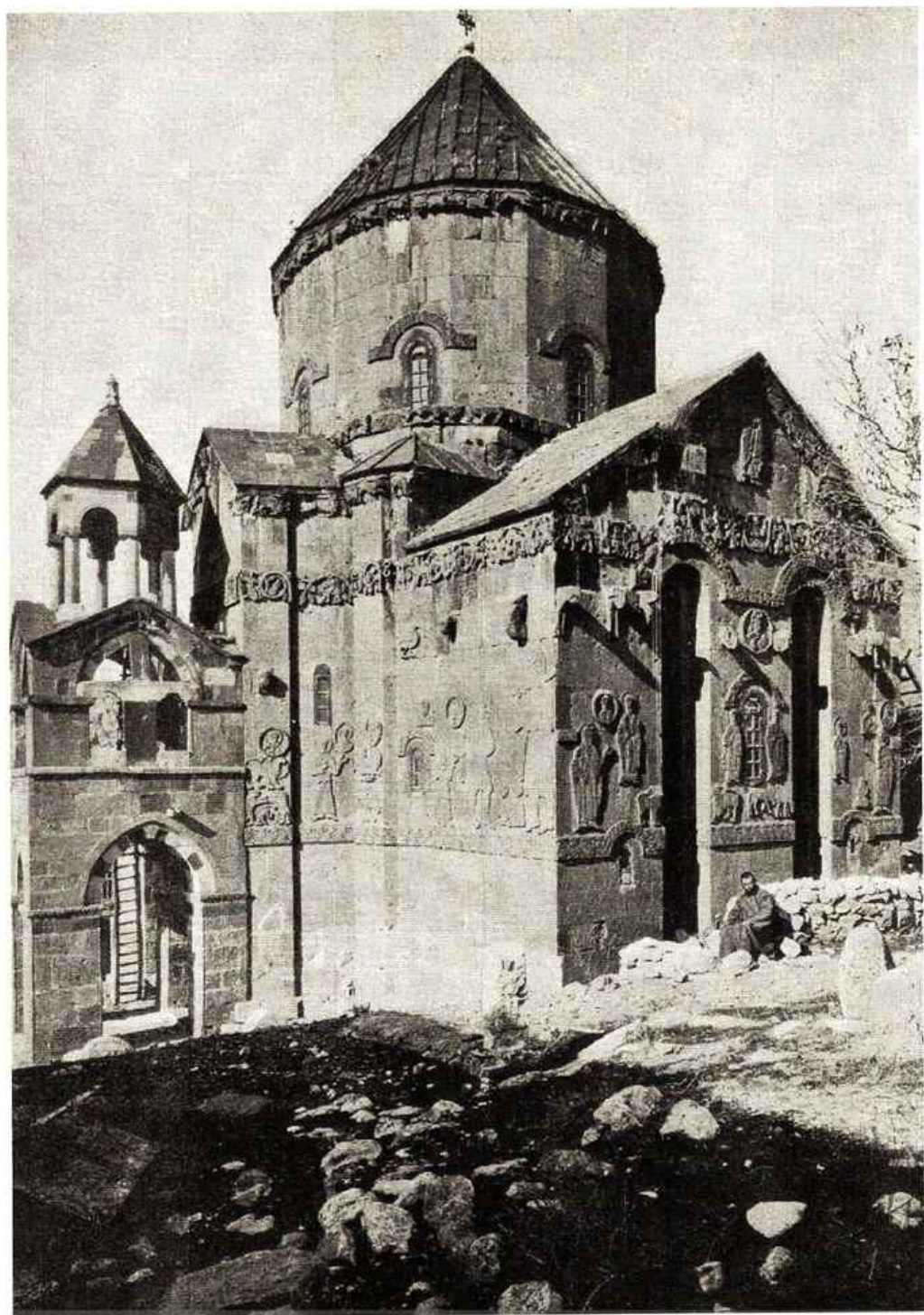
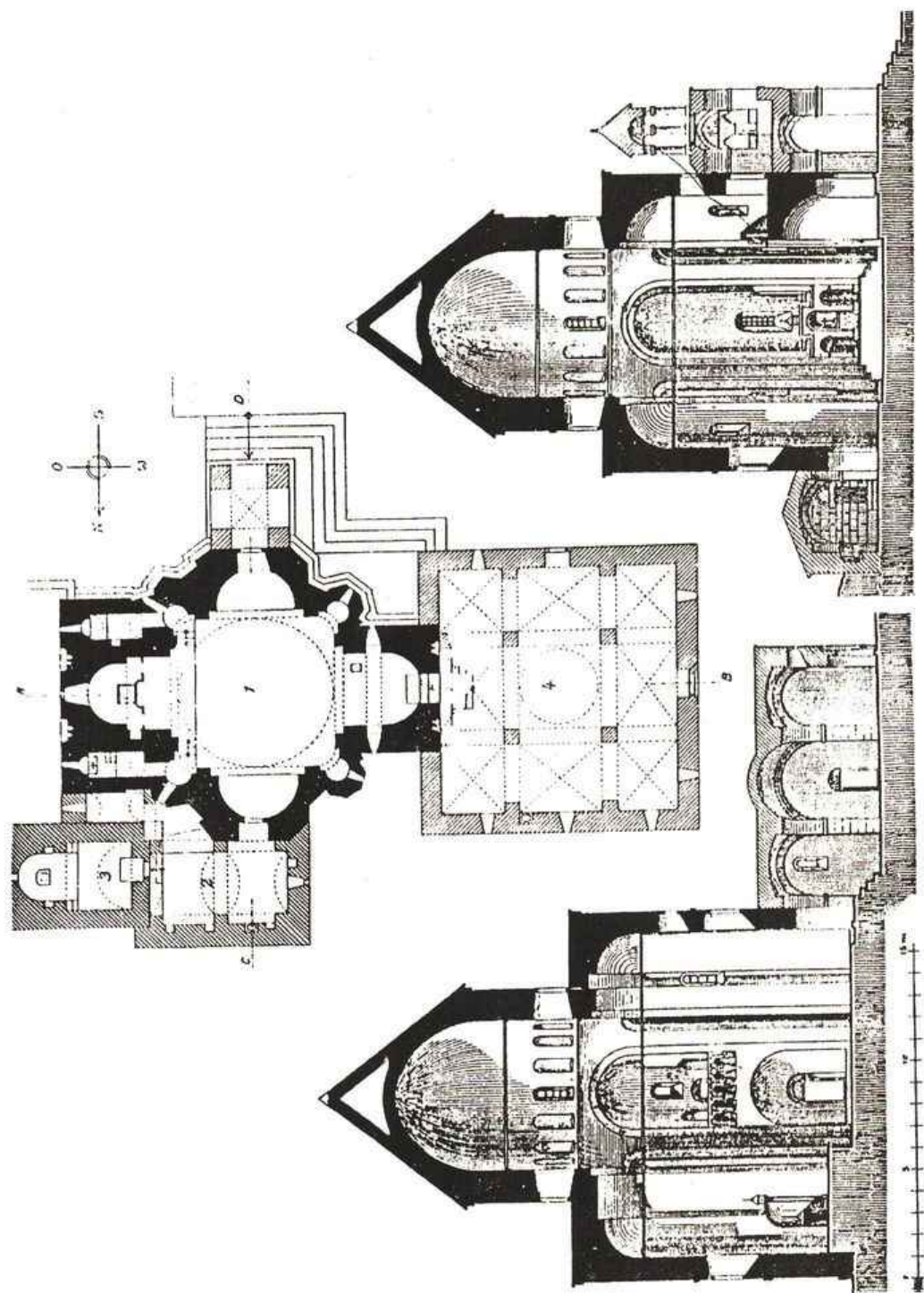


Fig. 1. Surb Khach (Holy Cross), Aghtamar (H.F.B. Lynch)

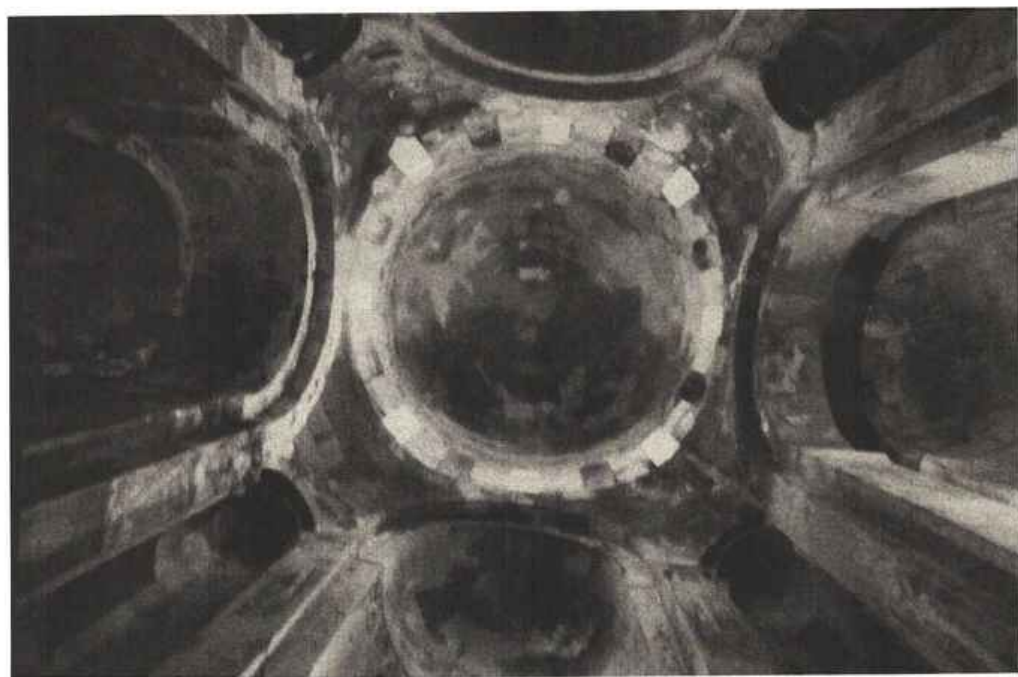
ing, borrowed from the repertoire of the Roman traditional stone masonry, was further reinforced by the addition of systematic lateral blocks, running through the whole width of the wall. This allowed the external facing blocks, the middle core, and the internal facing blocks of the same wall to work as one body against movements and, at the same time, be independent and flexible enough to resist earthquakes.

At Aghtamar, Surb Khach reveals yet another anti-seismic precaution. By examining both the interior and exterior masonry concurrently, it is significant to note that the second continuous scroll running on the four façades of the church corresponds with the continuous base of the springing of the internal arches. What this means is that this course of masonry serves as a belting, an anti-seismic device. The architect, himself a sculptor, must have experienced great pleasure in highlighting this zone by the scroll pattern. For him, this course of masonry functioned on more levels than simply messages and meanings of the religious scenes it transmitted to the general public.

The second characteristic of Armenian churches is the choice of the cone as the external shape of their domes. Double domes are not in themselves unusual or unknown, but the use of a conical, pointed gmbet to cover an interior hemispherical gmbet is innovative. This choice is sometimes interpreted as being reminiscent of the volcanic cone of Greater Ararat, but perhaps it can be explained even more as a structural precaution to protect the main load-bearing elements of the building underneath or for a better external visibility by gaining more height, as in fact all double domes do. In addition, it is noted that this same shape is used as the *vegħar* (conical head cover) of Armenian monks. Accordingly, it is not implausible to view this choice as a formal means selected deliberately by Armenian architects, as opposed to the flat domes of the Byzantine churches, and one that is highly distinguishable on the landscape. And finally, preliminary research indicates the possibility that the use of double domes was linked with another "functional memory." During restoration work on a tenth-century church in Eastern Armenia, large pottery pots were found placed in systematic rows, in the empty cavity between the two gmbets, with their mouths directed toward the center of the main prayer hall, as a device adding better acoustics. Whether the acoustic use of the double dome is a structural feature of all Armenian churches awaits further research.



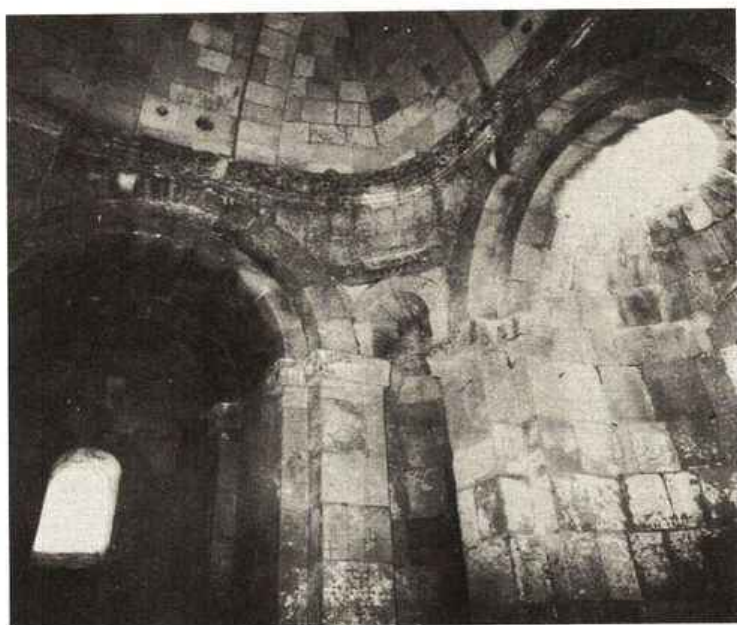
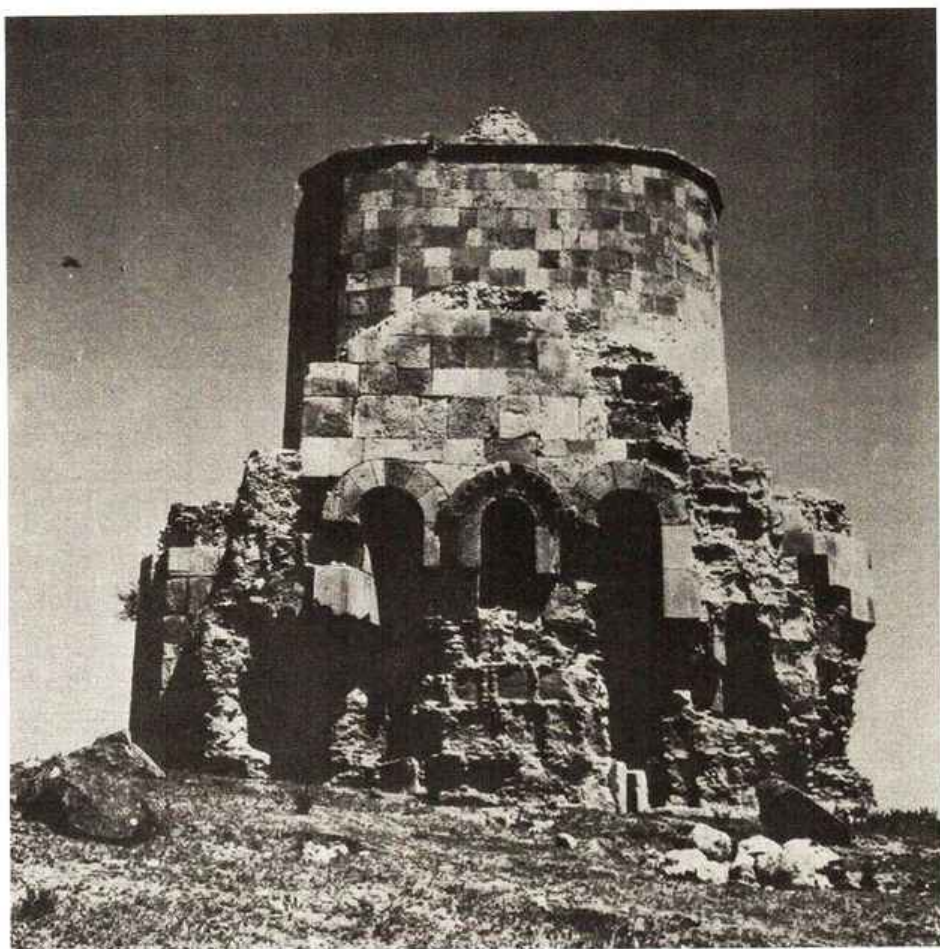
III.1. Diagram of Aghtamar, after Bachmann



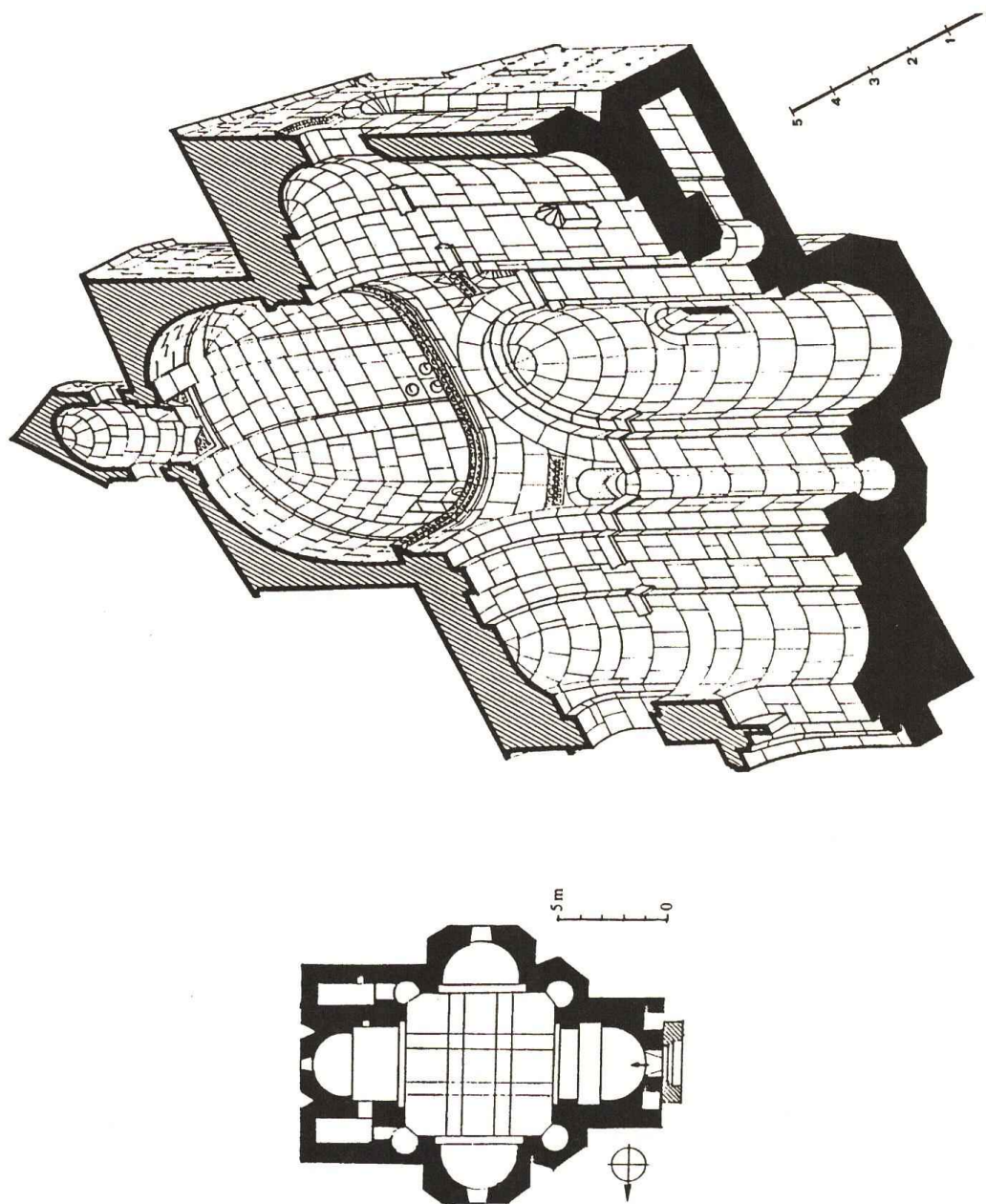
Figs. 2-3. Surb Khach and Cupola, Aghtamar (Armen Hakhnazarian)



Figs. 4-6. Surb Khach: Adam and Eve, Jesus Christ, King Gagik



Figs. 7-8. Zoradir and Interior (Thierry)



III. 2. Diagram of Zoradir, after Bachmann

I have chosen these two characteristics among others, for they reinforce the main prerequisites of the regional and cultural memories as expressed in the built environment of Vaspurakan. Despite the clear separation between them, it becomes obvious that in a long building tradition, such as that of Armenian church architecture in Vaspurakan, these two interact to become the inseparable constituents of a single set of intertwined and interrelated memories. Cultural memory appears to follow regional memory. By this, I mean to suggest that the combined memories of Armenian church building are basically concerned with the problems posed by its main regional enemy—the earthquake. Hence, I suggest that if variations among Armenian churches are to be detected these will be in the details of their constructional elements.

Variations within the Same Cultural Memory

With these considerations in mind, a few churches of Vaspurakan will be surveyed showing the diverse solutions adopted by the master builders to manipulate the cultural memories.⁷ Rather than a chronological approach, the primary objective will be to survey the different constructional details of these churches.⁸

1. The Church of Surb Khach in Aghbak, built in the seventh century as the pantheon of the Artsrunis, is also known as Surb Echmiadzin in Zoradir (Figs. 7-8, Ill. 2). The gmbet, a later addition, rises above a square base with smoothed sides, delineated by a decorated frieze above the arches framing the main four niches. This base is created by four pendentives starting with a straight one stone-block lintel, marking the beginning of the curvature and reaching the

⁷ Jean-Michel Thierry, "Les monuments arméniens du Vaspurakan," *Institut Français d'Archéologie du Proche-Orient* (Bibliothèque archéologique et historique), vol. 129 (Paris: Librairie Orientaliste Paul Geuthner, 1989); Thomas A. Sinclair, *Eastern Turkey: An Architectural and Archaeological Survey*, vol. 1 (London: The Pindar Press, 1987); Walter Bachmann, *Kirchen und Moscheen in Armenien und Kurdistan* (Leipzig: J.C. Hinrichs, 1913), pp. 23-57; Varazdat Harutyunyan, *Haykakan chartarapetutyun patmutyun* [History of Armenian Architecture] (Erevan: Loys, 1992), pp. 221-29; Ervand Lalayan, *Vaspurakani nshanavor vankere* [The Famous Monasteries of Vaspurakan] (Tiflis, 1919).

⁸ Information on these buildings was basically recruited from the documentation of Thierry, "Les monuments arméniens du Vaspurakan." I want to thank Dr. Armen Haknazarian, Director of Research on Armenian Architecture (RAA) in Aachen, for providing me with most of the unpublished photographic material concerning the Armenian churches in the Vaspurakan region.

smoothed corner of the decorated frieze. The gmbet is internally constructed by filling in between a pair of two crossing arches built in stone, each traversing the main axes of the space.⁹

2. The Church of Surb Nshan (Saint Mark) in the monastery of Karmravank was founded by King Gagik in the tenth century. Surb Nshan, once a component of an enclosed monastic complex, today stands in isolation. The horseshoe arch of the apse is an adoption of a foreign form. The dome, again hemispherical from inside and conical from outside, is built in brick with four brick pendentives to support it. Here the architect adopts a foreign form in the main apse and a new building material, within the traditional formal and constructional restrictions of the cultural memory of Armenian church building.

3. Two churches in Goms were documented by Walter Bachmann in 1910. When visited by Jean-Michel Thierry in 1967, only one church had survived in a ruinous state. In this seventh-century Church of Surb Gevorg (Saint George), the transfer from square to circle to support the hemispherical dome is achieved with the help of four stone shell-shaped squinches, yet another constructional variation (Figs. 9-10).

4. The fifteenth-century monastery in Ktuts consisted of the Church of Surb Hovhannes (Saint John), a *zhamatun* (hall), a bell tower, a cemetery, and a large dwelling unit (Figs. 11-12). The latter two have disappeared. Built in stone, Surb Hovhannes is crowned with the traditional double domes supported by pendentives. In the case of the *zhamatun*, four pendentives carry the roof, constructed by filling between the crossing arches as in Zoradir, with the addition of extra ribs as a compensation for the absence of the four-sided vertical supports found in the church at Zoradir. The central square created by the crossing of the arches illuminates the interior of the *zhamatun*, as yet another compensation for the absence of the drum and the dome, which would have otherwise served as the main illuminating system.

5. The gmbet of the thirteenth-century Church of Surb Stepanos (Saint Stephen) in Berkri, built in stone, is reinforced by two crossing arches, a technique going as far back as the sixth century (Fig. 13). The adjoining room is the funerary chapel of Surb Stepanos.

6. The fourteenth-century monastery in Gandzak comprises the

⁹ Tommaso Breccia Fratadocchi, *La Chiesa di S. Ejmiacin a Soradir* (Rome: De Luca Editore, 1971).

Church of Surb Tovmas (Saint Thomas), a hall, a cemetery, and an enclosure wall (Fig. 14). The complex was restored in 1581 and later in 1801. The buildings have a lower stone structure and a brick superstructure. Three courses on the base of the drum are built in a zigzag fashion as a separating device between the juncture of transmitting loads from the dome to the pendentives. In this case, this decorative manner, associated with Persian aesthetics, has been adopted without any divergence from the formal and structural basics of Armenian church building. The exterior face of the gmbet has systematic vertical and lateral ribs to gain extra stability.

7. The monastery of Ardzvaber in Arjesh, founded in the thirteenth century and restored later, is built on an Urartian site. The plan belongs to the type of Zoradir and Aghtamar, with four side sanctuaries instead of two. The architect utilized different colored stones as a decorative device and also as a means of emphasizing his masterly masonry details such as the corner niches and the cross-vaulted roof of one of the side sanctuaries.

8. The Church of Surb Bartoghmeos (Saint Bartholomew), founded in the sixth century, has a hall added in front of its entrance in the thirteenth century (Figs. 15-16). It is interesting to note how this hall is covered. Two columns and six pillars set against the internal walls of the hall carry four crossing arches which create the base for the covering of the hall. This method is nothing but another variation of the small side niches of Surb Khach in Aghtamar.

9. Two monastic complexes once existed in Varagavank or Varakavank, Verin (Upper) and Nerkin (Lower or Inner). The foundation of Varagavank is related to Grigor Lusavorich (Gregory the Illuminator) and the story of Saint Hripsimé. Later additions are related to members of the Artsruni family. Nerkin Varagavank once consisted of seven buildings, as documented by Bachmann in 1910. Only parts of a church and the zhamatun remain today. What is of particular interest in this complex is that the constructional elements are a brick variation of its stone parallel in Zoradir. The absence of the double dome allows us to grasp the main internal constituents of the church, the four semi-circular niches and the small side niches and their juncture at the base of the gmbet, absent in this case (Figs. 17-19, Ill. 3).

10. The final example is the monastic complex of Narekavank, which goes back to Grigor Narekatsi (951-1003). This famous, once-fortified monastic complex included two churches, a gavit, a bell tower,

the mausoleum of Narekatsi, administrative buildings, and dwellings (Fig. 20). At present, the complex is completely destroyed, but it demonstrates how this and all other such complexes at one time dominated the landscape with their multiple pointed conical domes rising against the sky.

At the end to this brief "tour" in Vaspurakan, we can conclude that the aspects of variability within the cultural memory of Armenian church building are what differentiate buildings and builders from each other. Armenian master builders created a whole range of ways to transfer the loads from the gmbet to the drum, and then to the vertical supports. But they have also utilized brick in place of stone. In Baridzori vank, the builder adopts the Persian way of using brick as building material and at the same time as a decorative device by laying the brick courses on the dome. In the Church of Surb Sahak (Saint Isaac) in Ererin, the brick pendentive is covered with plaster shaped into a false stalactite design. Finally, the brick solution of the cross-vault in the church in Moks is evidence of the use of brick in the same manner that stone would have been used.

Having surveyed Armenian churches in Vaspurakan, it becomes obvious that whatever the conditions of the site, whatever the materials used for building, whatever the period, and whatever the borrowed technique from other cultures, the main theme of the Armenian master builders was to raise safely an internally circular and externally pointed conical gmbet above a prayer hall, which had to satisfy stability vis-à-vis the "natural" enemy, the earthquake.

Seljuk Gumbads as Armenian Cultural Memory in a New Function

In search of continuity in the architectural tradition in the region of Vaspurakan, one should visit another building type in the region, another layer of cultural memory. The Seljuk mausoleum in Akhlat, Ulu Gumbad, the largest of the four best decorated of these pink-stoned mausolea dating from the thirteenth century, has been recently restored. Standing nearly 20 meters (65 feet) above ground level, Ulu Gumbad is composed of two levels (Fig. 21). The lower, being square in section, is transferred to a twelve-sided section on the second level, which has a circular interior. The transition from square to twelve sides is realized by the help of a pyramidal transitional zone located above

the lower square externally. The second level is cylindrical in section and is crowned by a semi-circular dome from inside and a pointed conical dome from outside (Ill. 4).¹⁰

The region is dictating a certain memory on the built environment of the Seljuk patrons, the newcomers to the region. The structural lessons learned about the gmbet in Armenian church construction are transmitted to the building of gumbads. But as the gumbads were used for burial purposes, meaning they needed no prayer hall underneath as in the Armenian churches, the problem of raising the gmbet is eliminated. The gmbet is simply placed on a square base. Hence, it is not difficult to see these gumbads as a simplified variation of gmbets of Armenian churches. No wonder that the Seljuks adopted the term gumbad for these structures as their variation of the Armenian term gmbet.

This architectural transfer from gmbet to gumbad is best demonstrated when Ulu Gumbad is compared with the seventh-century octagonal Armenian church in Varzahan (Fig. 22, Ill. 5). Although the church is not in the Vaspurakan region, its formal characteristics serve to clarify the point made here. The church is octagonal in plan both internally and externally. Eight radially placed buttresses carry the loads of the arches coming from the columns placed radially inside the church. When this church is compared with Ulu Gumbad, it becomes clear how the latter is simply the upper portion of the first, placed directly on the ground.

All the above instances suggest that Vaspurakan's multi-cultural regional memories are an indispensable part of our full understanding of the architectural heritage of the region. This area is an open field for the study of interwoven architectural transactions among cultural memories. From this perspective, among others, it is both unfortunate and unforgivable that the present-day trustees of this architectural heritage deprive future generations of accessing all the memory layers currently available.

¹⁰ For a further reference related to the Anatolian mausolea and the Armenian connection, see Robert Hillenbrand, *Islamic Architecture: Form, Function and Meaning* (New York: Columbia University Press, 1994), pp. 306-11.



Figs. 9-10. Surb Gevorg of Goms and West Window (Thierry)



Fig. 11. Surb Hovhannes of Ktuts

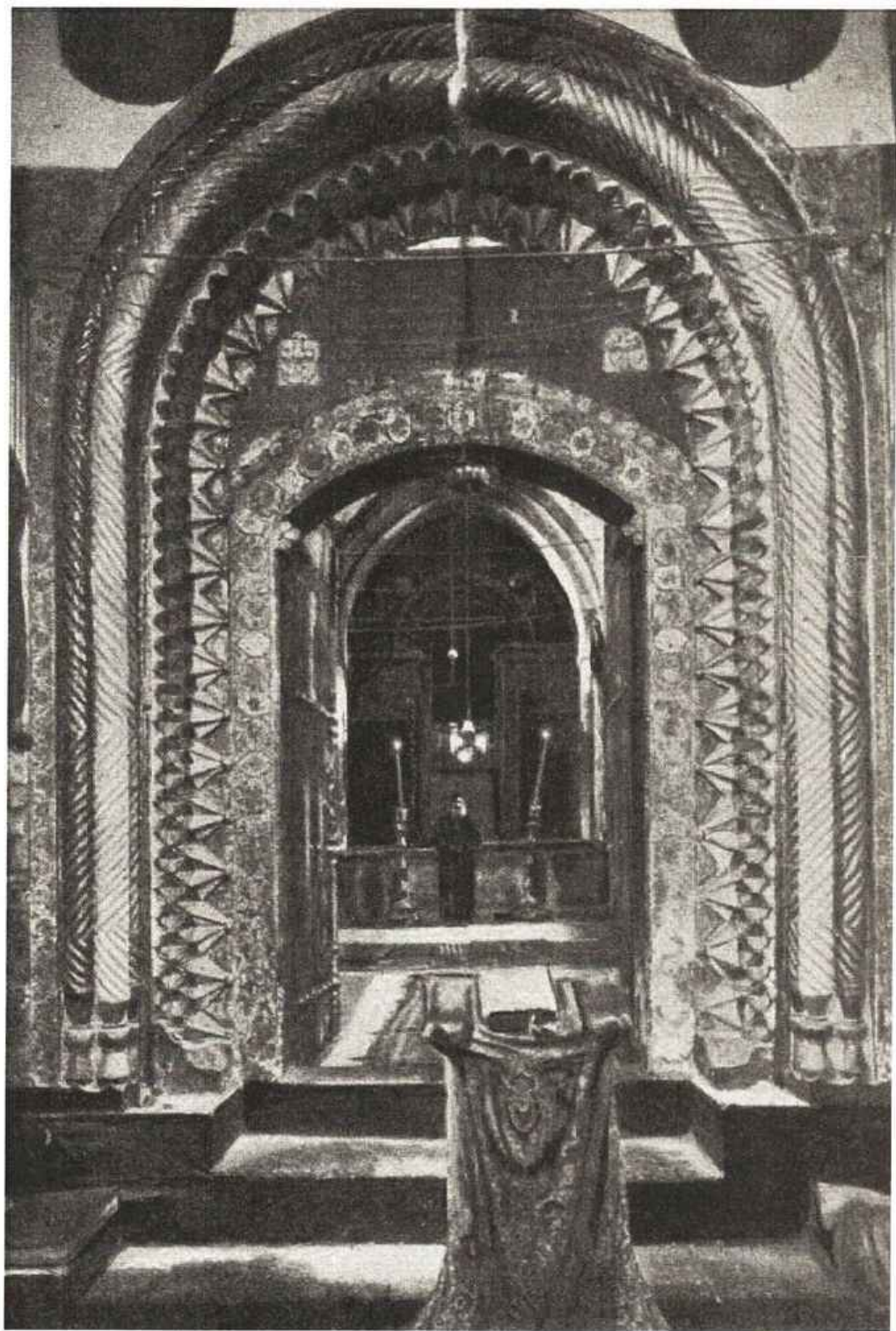


Fig. 12. Surb Hovhannes of Ktuts, Doorway



Fig. 13. Surb Stepanos of Berkri (Hakhnazarian)

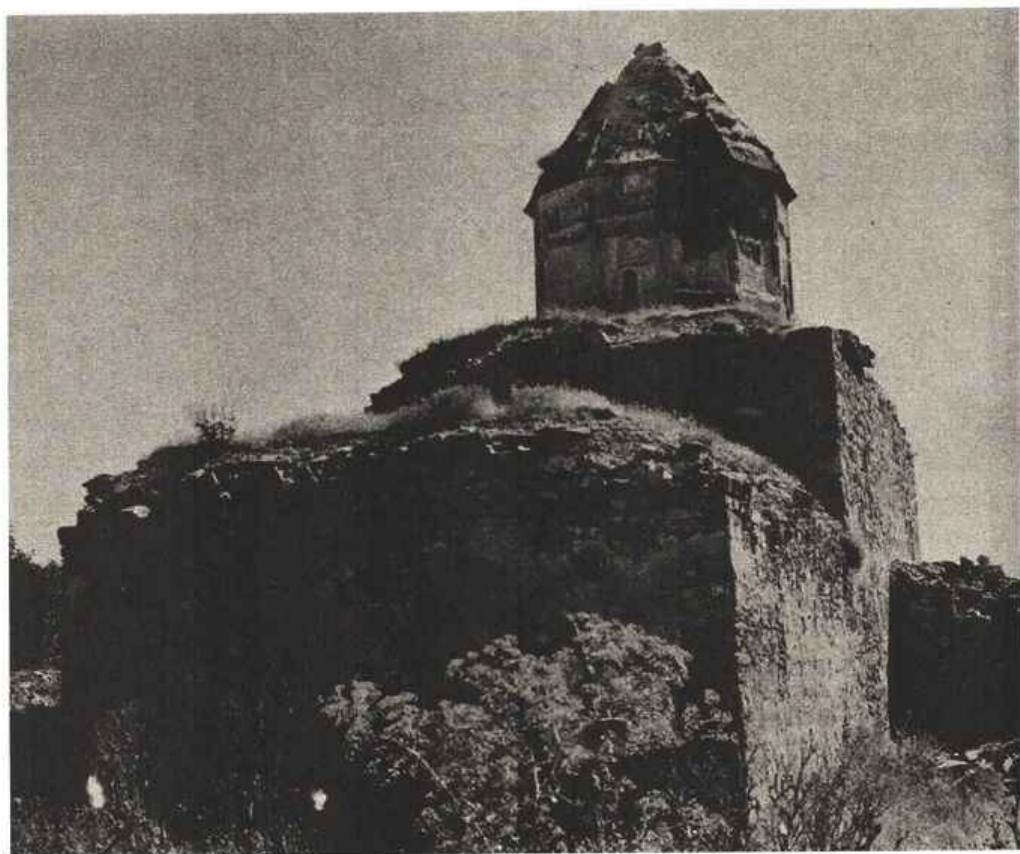
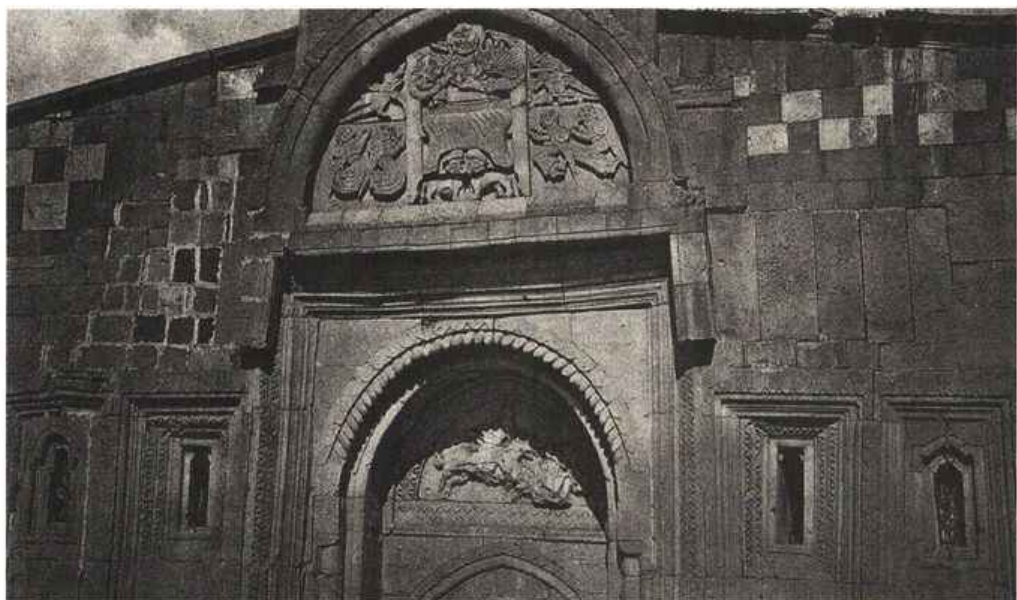
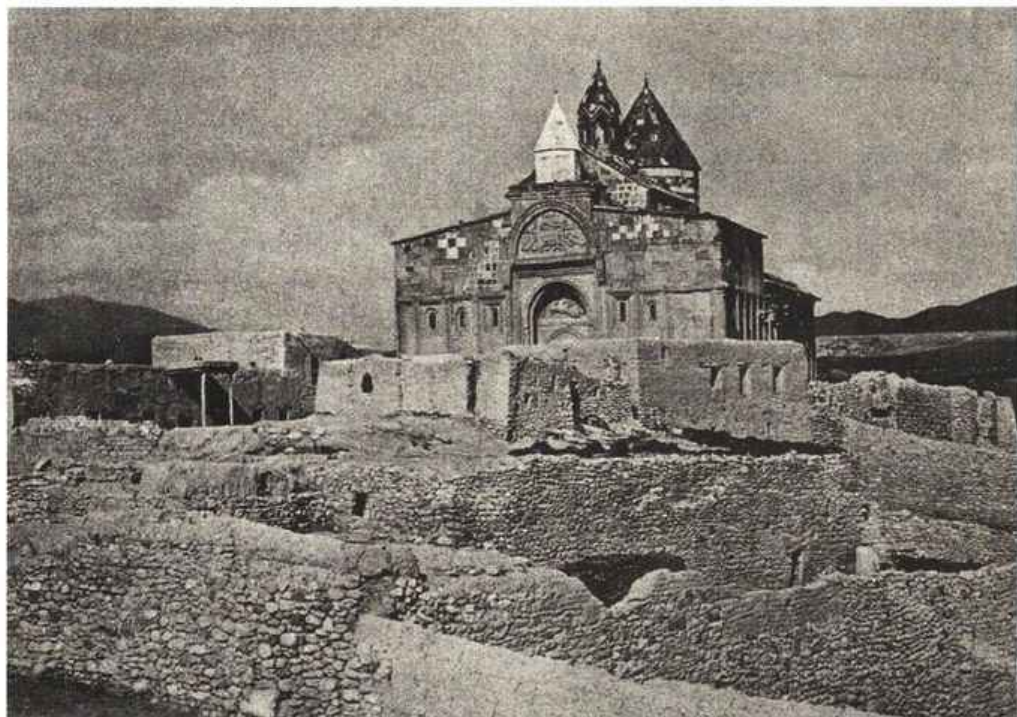


Fig. 14. Surb Tovmas of Gandzak (Thierry)



Figs.15-16. Surb Barthoghmeos and Portal
(Bachmann)

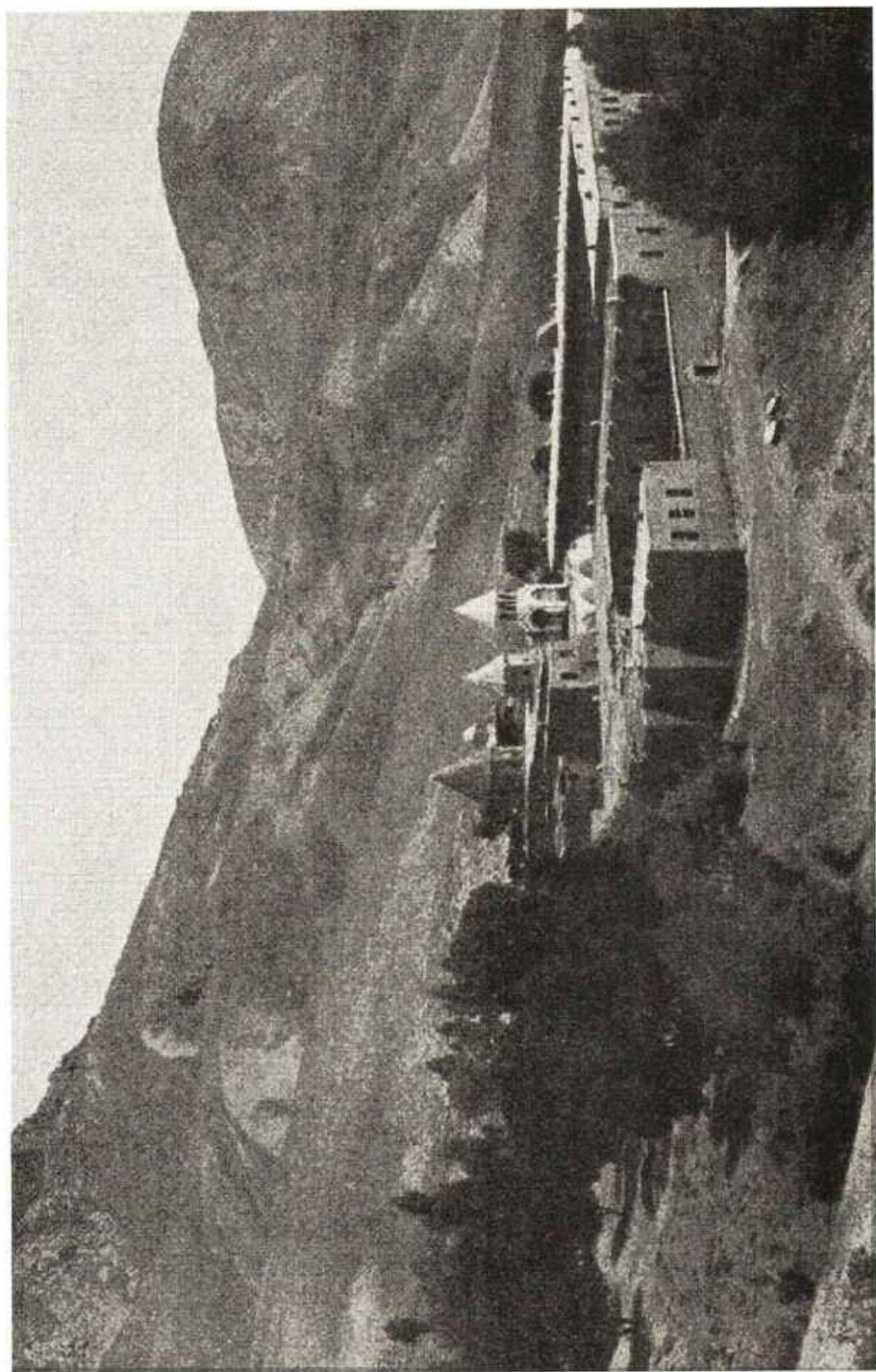
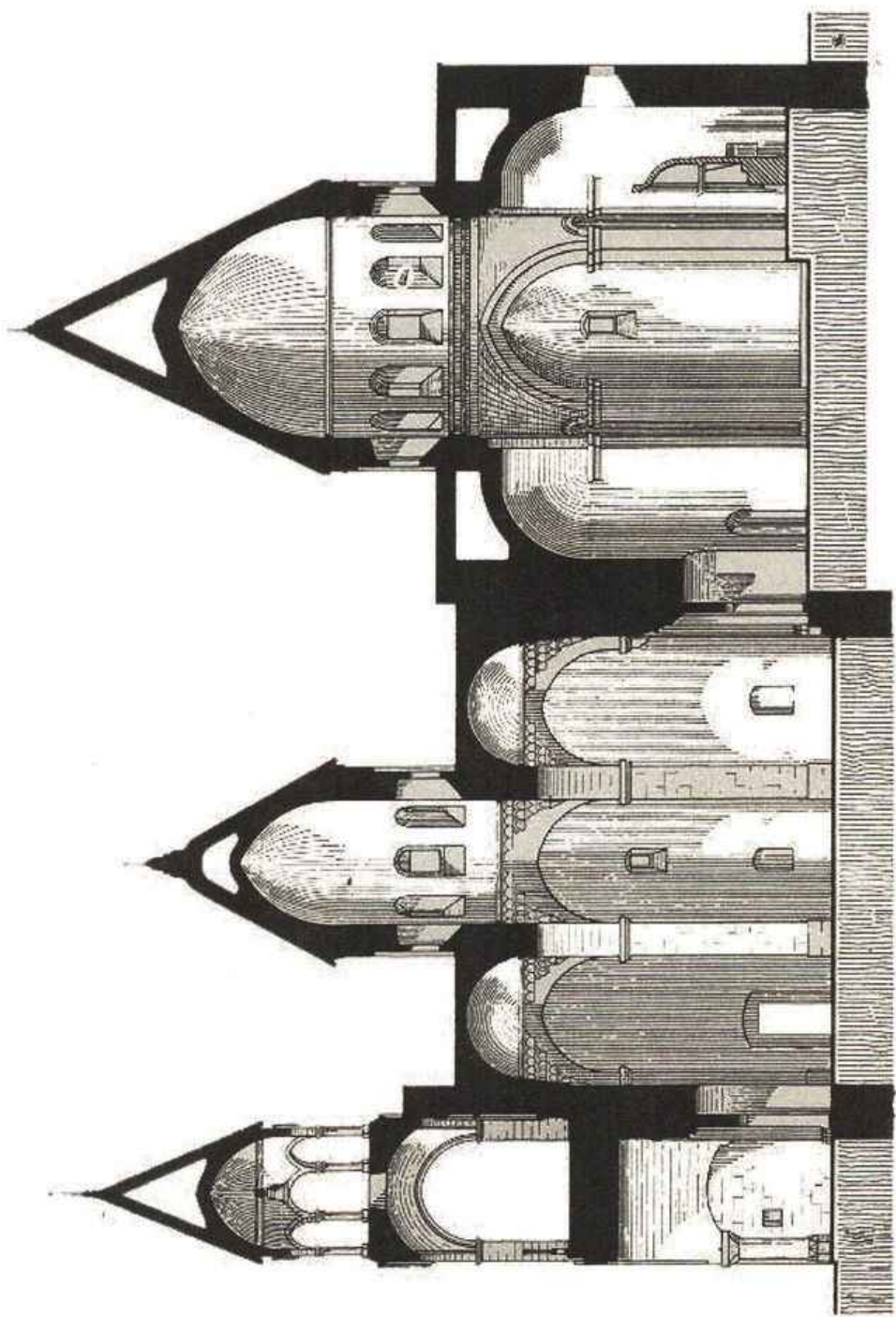


Fig. 17. Varagavank



III. 3. Diagram of Varagavank (Bachmann)



Figs. 18-19. Varagavank and Interior

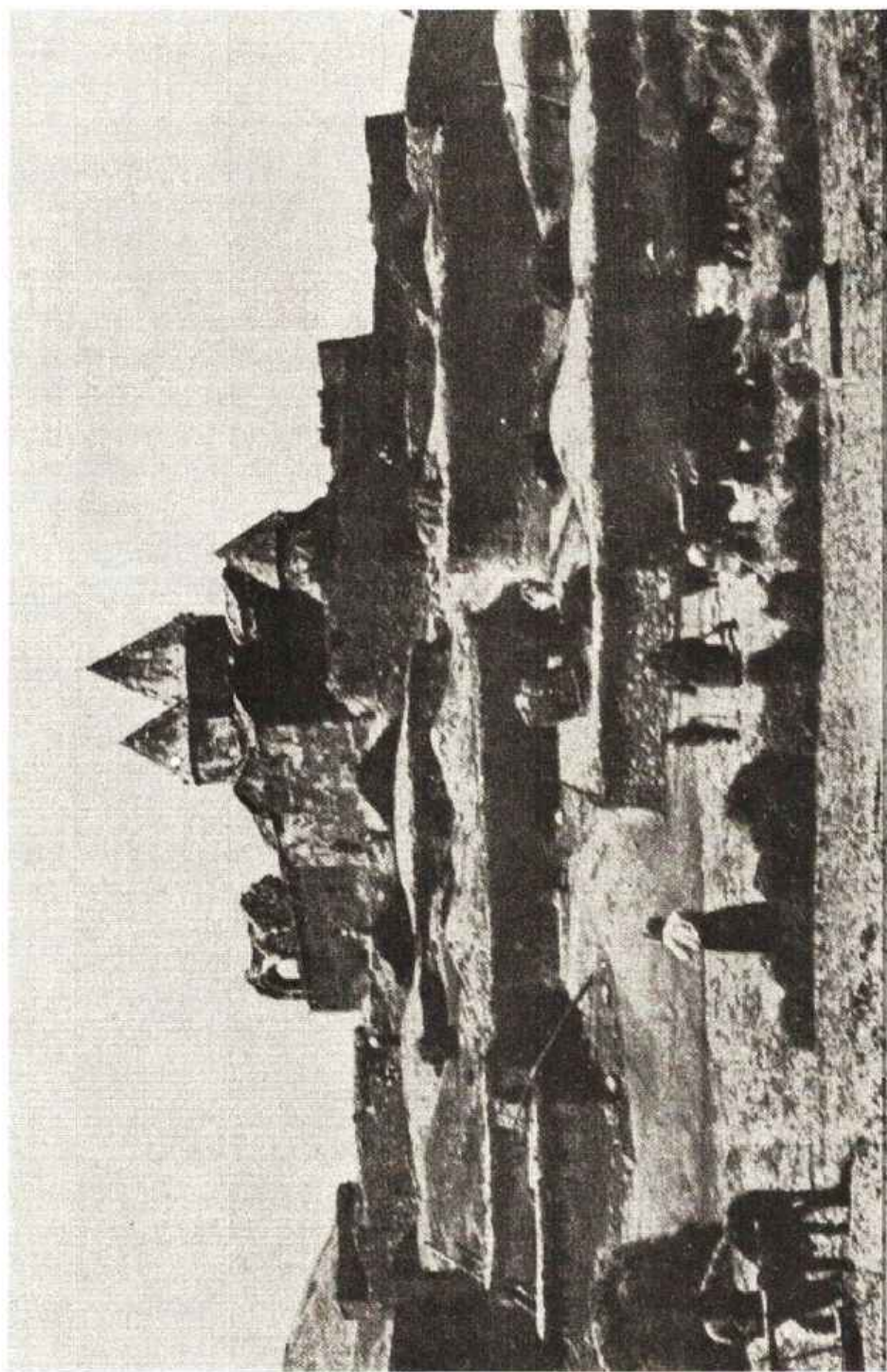


Fig. 20. Narekavank

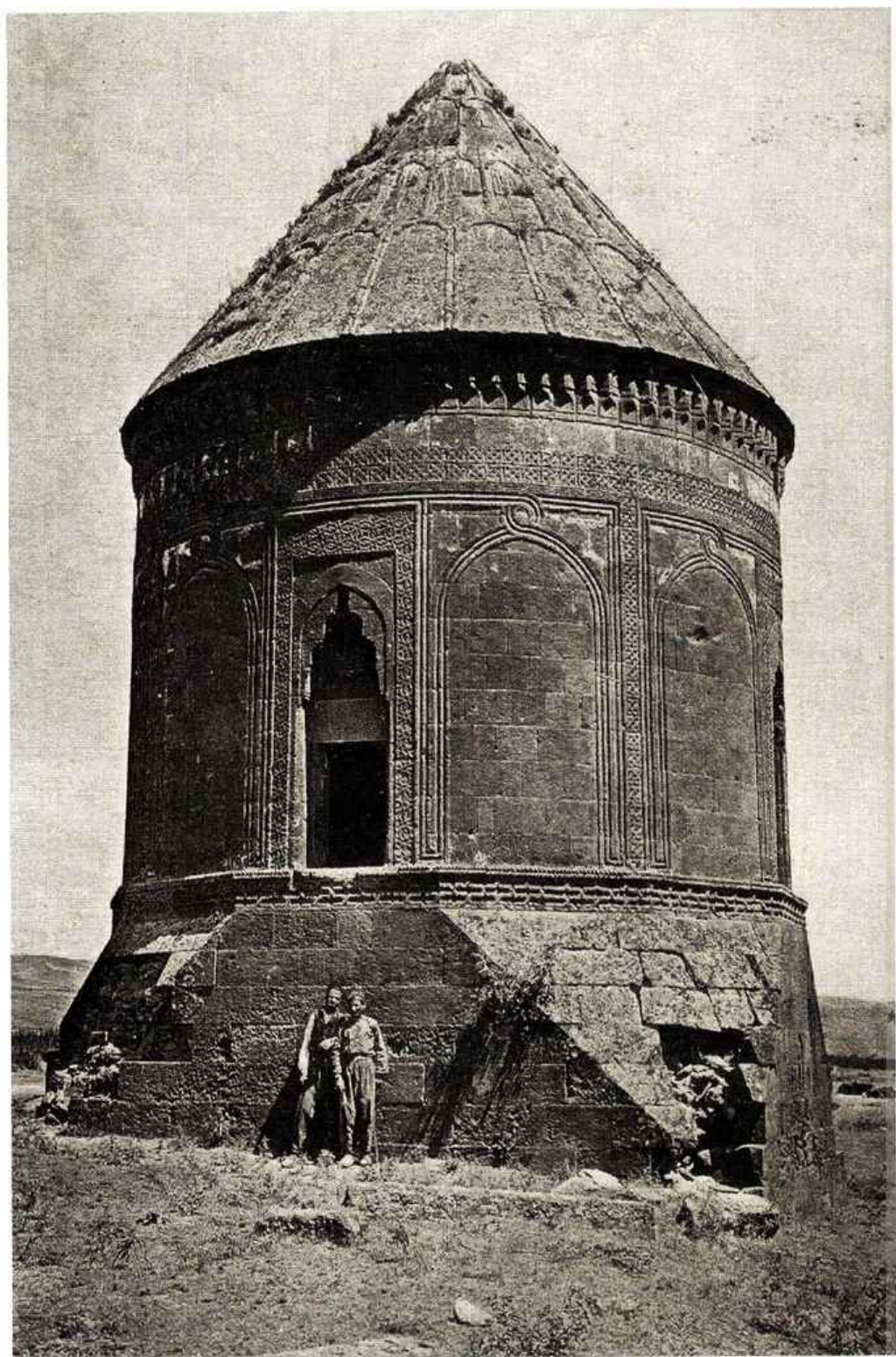
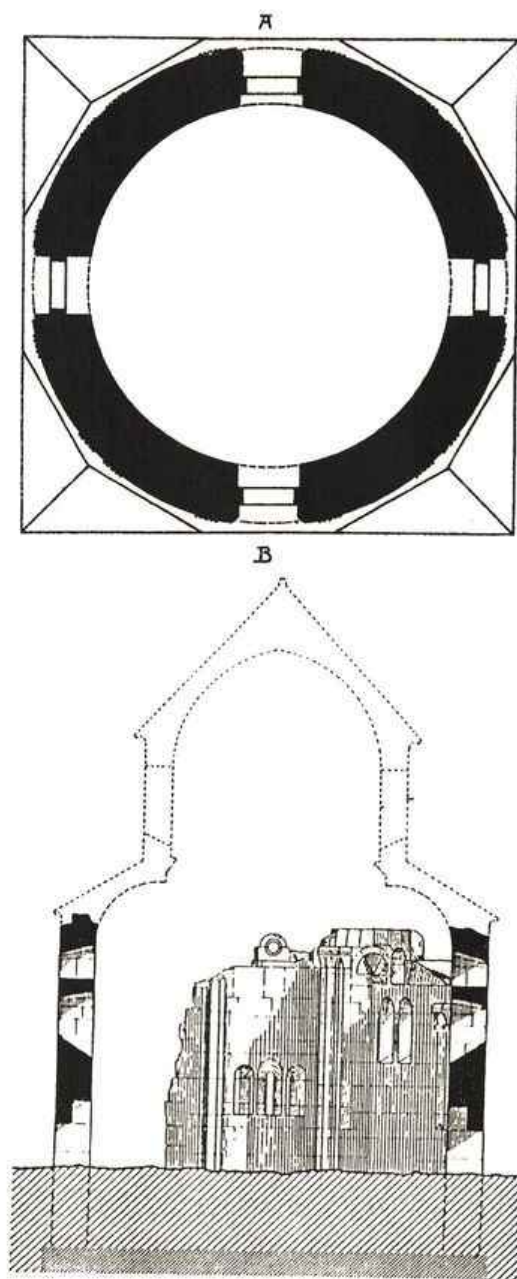
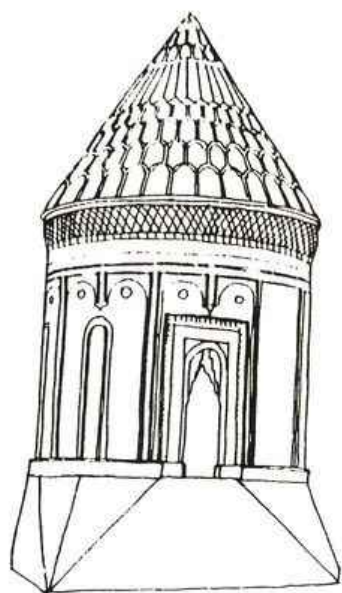


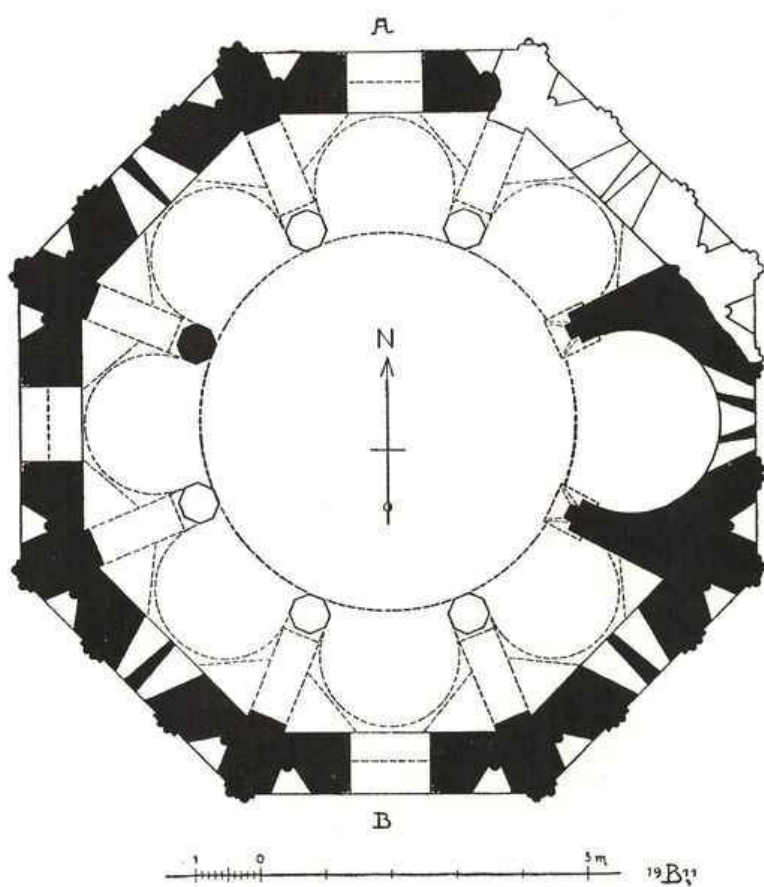
Fig. 21. Ulu Gumbat, Akhlat (Bachmann)



III. 4. Diagram of Ulu Gumbat



Fig. 22. Octagonal Church of Varzahan



III. 5. Diagram of Octagonal Church, Varzahan